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MANASSEH CUTLER.

JAMES ELLIS HUMPHREY.

A MAN who clearly deserves a distinguished place among American pioneers in science is the subject of this sketch. Without advantages of birth, and through life dependent on the meager stipend of a New England country minister, he yet contributed much useful work to the development of science and to the extension of civilization in the United States. Two volumes of extracts from his letters and journals, of the greatest interest and value, were published by some of his descendants at Cincinnati in 1888. These give a striking impression of his progressive spirit and tireless activity, and furnish the chief available facts concerning his life.

Manasseh Cutler was born May 3, 1742, the son of a farmer of Killingly, Conn. His home was evidently one in which the Puritan love of learning prevailed, for he was graduated at Yale in 1765. He then obtained a position as a teacher in Dedham, Mass., a somewhat unusual thing at the time when the towns about Boston were accustomed to look to Harvard for their teachers. Here he became acquainted with Miss Mary Balch, daughter of Rev. Thomas Balch, the minister at Dedham, and she became his wife in 1767. In that year he went to Edgartown, on Marthas Vineyard, to take charge of and close up the business of a relative of his wife, just deceased. While there he was admitted to the bar, having devoted his time since his graduation to reading law. But his first experiences in legal practice gave him a distaste for it, and he determined to enter the ministry.

Accordingly, he returned to Dedham and began a regular course of study with his father-in-law. The glimpses of his experiences and deliberations while preaching as a candidate in several Massachusetts parishes, afforded by his journal, show the shrewd and cautious man, with keen zest for amusing situations and with clear understanding of and sympathy with human nature beneath the preacher's coat. Finally, in 1771, he accepted a call to Ipswich Hamlet, on Cape Ann, which was set off in 1793 as the new town of Hamilton. Here he remained fifty-two years, until his death, increasingly loved and respected, and the most influential man of the region. In his time the nearest place of importance was Salem, then at the height of her prosperity as a great shipping port. Mr. Cutler soon acquired a reputation there as a teacher, and received important additions to his slender salary for fitting the sons of many distinguished families for college, as well as for training in the theory of navigation many a young man who became a famous shipmaster in the East India trade. He never received from his parish more than four hundred and fifty dollars a year — then relatively a much larger sum than now, it is true.

During the Revolution the great need of army surgeons at the front called away the village doctor from Ipswich Hamlet, and the minister took it upon himself to study medicine, that his people might not be without help in sickness. At another time he served several months as a regimental chaplain in the Continental Army. It seems very likely that his medical studies first developed his interest in natural science; for we know that this branch of knowledge played no important part in college curricula in his day, and the first evidences of his attention to it date from this time. His interest in botany seems always to have predominated, and his chief publication was upon this subject. Yet he corresponded with many of the most distinguished scientific men of his time in both Europe and America on a great variety of the subjects then most discussed. Among these were the aurora borealis and other meteorological matters, physical problems, the habits and migrations of animals, as well as the plants of his own and other regions.

In June, 1780, he records having read Hales' *Vegetable Staticks* and his wish to follow out some lines of experimentation suggested to him by the reading. He evidently caught from it the inductive spirit, of which Hales' work was the first fruit in its field of research. The difficulties under which he labored may be understood from a letter written at this time to his friend, Professor Williams, of Harvard. He says: "I have thought of several experiments which I fancy may be well worth making, but cannot well proceed without a barometer. I have a prospect of getting a tube soon, which you have been so kind as to offer to fill with the mercury. The scale I can get made in Salem if I could procure a barometer for a pattern; but there is none in that town. . . . If there is any gentleman of your acquaintance in Boston who has a barometer and makes little use of it, and would be so kind as to favor me with it until I can get one completed, I shall consider it as a very particular favor." A few months later he wrote to the Corporation of Harvard College for permission to take from the college library certain books which he had failed to procure in Europe, and which he had needed for the study of plants.

On January 31, 1781, the American Academy of Arts and Sciences held its first meeting for the transaction of business. It then elected officers and chose some new members, among them Mr. Cutler. Two years later he was made a member of the Committee on Communications in Natural Philosophy and Natural History, his associates being Theophilus Parsons and Gen. Benjamin Lincoln. He was one of the first party which visited the White Mountains for scientific observations, in July, 1784, and especially studied the plants of the region. Twenty years later he repeated the journey. In 1785 appeared the first volume of the *Memoirs of the American Academy*, which contains his chief published writing, "An Account of Some of the Vegetable Productions Naturally Growing in this Part of America, Botanically Arranged." This was the first connected account of any part of the flora of any American region by a native writer. The plants were arranged, of course, according to the Linnæan system, and there were many discriminating notes concerning the uses and peculiarities of various species. In the same year he was elected a member of the American Philosophical Society of Philadelphia. In the third volume of the *Memoirs of the American Academy* is a figure with brief "Remarks on a Vegetable and Animal Insect." This is an account of the larva of a stag beetle attacked by the *Clavaria militaris* of Linnæus, a fungus now known as *Cordyceps militaris*. It shows a clear understanding of the relations between host and parasite quite free from that air of marvelousness which still pervades popular accounts of similar phenomena.

In July, 1787, Cutler went to New York to visit the expiring Continental Congress, and succeeded, largely by his personal influence, in securing favorable action on the proposed grant of land beyond the Alleghanies for settlement to a company in which he was interested. The evidence seems conclusive that his hand drafted at least that clause of the "Ordinance of 1787," for the government of the Northwest Territory, which forever excluded slavery from its limits, and which has been regarded as, in its effects, the most far-reaching single piece of legislation in the history of the country. Thence he went on to Philadelphia, where the constitutional convention was in session. While there he visited Dr. Franklin, then eighty-one years old. His embarrassment on meeting so famous a man and the way in which he was put at ease by Franklin's simplicity and cordiality, as well as the ill behavior of the great man's grandchildren, are all delightfully described in his journals. His accounts of this visit and of that to Carpenter's Hall mention especially the botanical books he saw. One morning he went with friends out to see Bartram's garden, on the Schuylkill, already falling into neglect. On the return journey to his home he stopped at Bordentown, N. J., to call on Michaux at his nursery there. He failed to find the owner, but saw his garden and recorded his impressions thus: "What could induce Mechard to fix down in this awful, gloomy, lonely, miserable spot is beyond my power to conceive. I was never more disappointed, and regretted the pains I had taken to see the ill taste and judgment of this botanical Frenchman."

In December of the same year a party left Mr. Cutler's house in Ipswich Hamlet with an ox-wagon bound for "Marietta on the Muskingum,"—the first settlers of the Northwest Territory. In the party were two of Mr. Cutler's sons. They arrived at their destination in the following April, and a few months later were visited by their father, who may fairly be called the father of the settlement. He had driven across the country in a chaise from his home, and returned in the same way after a stay of a few months. He prepared the charter of

Marietta College, and, while on the ground, made the first studies of the earthworks of the Ohio valley, computing their minimum age from the trees and remains of trees found growing on them. Some partly decayed stumps were found, between eight and nine feet across, on which it was impossible to count the annual rings. But he estimated a tulip tree, five feet and eleven inches in diameter within the bark, to be from four hundred and forty-one to four hundred and forty-five years old.

In 1789 his *alma mater* conferred on Mr. Cutler the degree of LL.D. Besides the societies already mentioned, he became a member of the Massachusetts Historical Society, the American Antiquarian Society, the New England Linnæan Society, and the Massachusetts Society for Promoting Agriculture; and he was made an honorary member of the Massachusetts Medical Society for his attainments in the healing art. He served as a member of Congress during two terms, from 1801 to 1805, as an uncompromising Federalist. His journals give a vivid idea of the intensity of political feeling in this first period of Democratic supremacy.

He had evidently planned an extended botanical work, and for many years collected notes and drawings with this in mind. They finally filled more than a dozen large volumes, which suffered much injury from a slight fire in his study during his temporary absence from the room. This occurred in the latter part of his life, and seems to have disheartened him. A part of these volumes were at one time in the possession of the late Prof. Edward Tuckerman, of Amherst College, who has said that the publication of the results of his studies would have given Dr. Cutler high rank as a botanist. In these manuscript volumes he recorded conclusions which were only given to the world when again reached by Bigelow, Nuttall, Gray, and others. For example, he recognized that the hickories are generically distinct from the walnuts, and indicated many new species first published by the authors already named. He was a great lover of plants from every point of view. His large garden contained a great variety, especially of trees and shrubs. He is said to have introduced into eastern Massachusetts the buckthorn from England, the pawpaw, the persimmon, the tulip tree, the trumpet vine, and many more from farther west and south.

Dr. Cutler died July 28, 1823, and lies buried beneath a marble slab, on which, without fulsomeness of eulogy, a long epitaph recounts his many virtues and accomplishments. The writer made in 1896 a pious pilgrimage to the scene of his labors, still a sleepy little village, as he left it. There, all within a stone's throw, may still be seen the house where he lived, now enlarged and transformed, the church where he preached, remodeled since then, but still bare and uninviting, as in his day, and the old cemetery where he rests. Such an occasion makes one realize, as we do far too seldom, how much our modern science owes to men like Dr. Cutler. He has not left a great scientific reputation, it is true, though doubtless he might have done so under less adverse circumstances. But he did what he could. He was a pioneer in a new country, not merely a pioneer in science, but a pioneer for truth and civilization in every form, trying always to push back the limits of the intellectual and physical wildernesses of his time, and to clear the ground, not alone for cities and material gain, but with a view also to the upbuilding of sound learning and the enrichment of the world's knowledge, which material prosperity makes possible and ought to make certain.